



Prismatic Lithium Ion Battery Safety Guidelines and Instructions

WARNING: Please read and understand the safety Guidelines and Instructions in its entirety before using or charging your Li-ion battery pack. Failure to do so may result in fire, personal injury, or damage to property if used improperly. AA Portable Power Corp (AAPPC) assumes no liability or warranty claim for failure to comply with the Guidelines and Instructions. The buyer assumes all risks associated with AAPPC product.

1. Li-ion battery cells must be used with a battery management system (BMS). Every Li-ion battery cell must be monitored and automatically protected against over-charge and over-discharge conditions. Over-charge and over-discharge conditions will cause permanent damage to battery cells and packs, and possibly create unsafe operating conditions, such as fire.
2. Always implement safety devices such as fuses and contactors together with BMS system to disrupt charging and discharging paths when unsafe conditions occur, such as over-voltage, under-voltage, over-current, short circuit, over-temperature, under-temperature, etc.
3. Always use a BMS system provided by AAPPC together with AAPPC Li-ion batteries. If a non-AAPPC provided BMS is desired, buyer should make sure the Li-ion battery cells are protected against over-charge and over-discharge.
4. Always use an AAPPC provided charger to charge AAPPC Li-ion batteries.
5. Read the specifications of Li-ion battery before usage and charging. Always charge and discharge Li-ion battery within the specified parameter ranges based on individual cell voltages and temperatures.
6. Battery, BMS, charger and other control electronics must be installed or kept in a dry area. Avoid exposure to water, such as rain, splashes and moisture condensation.
7. Battery packs and control systems must be securely installed. Avoid any movement of battery, connections, wiring and electronics during use.
8. Avoid short circuiting battery cells or packs. A short circuit condition will cause permanent damage to battery cells and packs, and possibly create an unsafe operating condition, such as fire. Use caution when installing bus bars, cables and BMS components on the cell terminals. Tools, such as screw drivers and wrenches should be of a properly rated, electrically insulated type.
9. Make sure that the surfaces of battery terminals and bus bars are clean and dry. All screws must be tightened properly on the battery terminals before battery is used. Loose connections will result in high contact resistance, heat generation, and can potentially be a fire hazard.
10. Make sure bus bar stacks, terminal connectors and cables are adequately sized to handle the maximum charge and discharge current. Inadequately sized bus bar stacks, connectors and cables will cause overheating and result in a potential fire hazard. Always use current limiting devices such as fuses or circuit breakers.
11. There is risk of electric shock when working on a Li-ion battery pack. Always wear personal protective equipment (PPE) when working on a battery pack per Occupational Safety and Health Administration (OSHA) and National Electric Code (NEC) guidelines.
12. Prismatic cells are strapped with Aluminum plates and steel bars. The strapping hardware provides compression to the pack and prevents possible swelling. Removing this strapping hardware may result in cells swelling during use, which will result in accelerated aging and shorter lifetime.